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EXAMINER	
PHILPOTT, JUSTIN M	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/753,227	ENGWER ET AL.	
	Examiner	Art Unit	
	Justin M Philpott	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20041110*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed November 10, 2004 have been fully considered but they are not persuasive.

First, applicant argues (page 8, first and second paragraphs) that the NAV value in Koutroubinas is not a value within a field of a DTIM beacon. However, as discussed in the following office action, Koutroubinas teaches the information is communicated within a "Beacon (B)" and further teaches compatibility with IEEE 802.11 (e.g., see page 483, column 2). Further, as discussed, the teachings of Koutroubinas provide dynamic bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion"). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency. Accordingly, applicant's argument is not persuasive.

Second, applicant argues (page 8, third paragraph to page 9, first paragraph) that Beach does not teach load balancing information within a data frame. However, as discussed in the following office action, Beach teaches various timing information designated for each unit is transmitted (e.g., col. 1, lines 43-60) which implicitly comprises load balancing information. Furthermore, while applicant argues that this timing information is included in a probe response packet, different from a data frame,

Beach also teaches that such timing information is included within the beacon (e.g., see col. 1, lines 61-64). Thus, applicant's argument is not persuasive.

Third, applicant argues (page 9, second and third paragraphs) that Beach in view of Koutroubinas do not teach the limitations of claim 5. However, as discussed in the following office action, Koutroubinas teaches that each Beacon packet defines the timing of the transmission of data traffic, and therefore, the teachings of Koutroubinas encompass data frames being broadcast after a definitive time period has elapsed after the broadcasting of the special beacon (e.g. see page 483, column 2, fourth paragraph, lines 5-8). Thus, applicant's argument is not persuasive.

Fourth, applicant argues (page 9, fourth paragraph to page 10, first paragraph) that in addition to the arguments above regarding claim 5, Beach in view of Koutroubinas do not teach broadcasting the data frame "immediately" after the special DTIM beacon. However, as discussed above, the teachings of Koutroubinas encompass data frames being broadcast after a definitive time period has elapsed after the broadcasting of the special beacon (e.g. see page 483, column 2, fourth paragraph, lines 5-8), wherein the definitive time period implicitly comprises a time of zero (i.e., "immediately after") or greater value. Thus, applicant's argument is not persuasive.

Fifth, applicant argues (page 10, second paragraph to page 11, first paragraph) that the AP_ID, identifying address, and CRC are included in probe communications and are not within the beacon. However, as discussed in the following office action, Beach teaches the beacon includes information similar to that contained in the probe communications (e.g., see col. 1, lines 61-64). Thus, applicant's argument is not persuasive.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 15, 16, 18, 19 and 29 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,067,297 to Beach.

Regarding claim 15, Beach teaches a method comprising: modifying a beacon to produce a modified beacon (e.g., beacon comprising TIM and DTIM fields, see col. 11, line 1 – col. 12, line 51), the modified beacon (e.g., beacon) comprises a plurality of additional information elements comprising an access point name (e.g., AP_ID, see col. 11, line 3), an access point identifier information (e.g., identifying address, see col. 1, lines 47-48) and a load balancing information (e.g., see col. 1, lines 48-60 regarding hopping pattern, timing information, and associated mobile units; and col. 1, lines 61-64 regarding the information is included in the beacon); and transmitting the modified beacon (e.g., see col. 11, lines 59-60).

Regarding claim 16, Beach teaches the modified beacon further comprises a first frame check sequence associated with the plurality of additional information elements (e.g., CRC, see col. 12, line 33 – col. 13, line 4).

Regarding claim 18, Beach teaches the modified beacon (e.g., beacon) is a DTIM beacon (e.g., see col. 11, lines 19-22, beacon comprising a set DTIM field).

Regarding claim 19, Beach teaches the modified beacon (e.g., beacon) is a TIM beacon (e.g., see col. 11, lines 19-22, beacon comprising a set TIM field).

Regarding claim 29, Beach teaches the system is configured in accordance with the IEEE 802.11 standard protocol (e.g., see col. 3, lines 9-11).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2, 3, 5-8, 10, 12-14, 20, 22, 24-28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,067,297 to Beach in view of the article entitled, "A New Efficient access Protocol for Integrating Multimedia Services in the Home Environment" (IEEE, June 1999) by Koutroubinas et al.

Regarding claim 2, Beach teaches a method and access point logic in accordance with IEEE 802.11 comprising: broadcasting a special delivery traffic indication message DTIM beacon (e.g., see col. 11, lines 13-22), the DTIM beacon having at least a traffic indicator bit that is set (e.g., DTIM field within beacon frames are set, see col. 11, lines 19-21) to denote data is to be transmitted after the DTIM beacon (i.e., access point has data queued for future transmission, see col. 11, lines 21-22), and broadcasting the data frame after broadcasting the special DTIM beacon (e.g., see col. 11, line 55 – col. 12, line 7), the data frame comprises at least load balancing information (e.g., see col. 1, lines 48-

60 regarding hopping pattern, timing information, and associated mobile units; and col. 1, lines 61-64 regarding the information is included in the beacon).

However, Beach may not specifically disclose the bit in the field denotes a specific transmission of a data frame after the beacon.

Koutroubinas also teaches a beacon in accordance with IEEE 802.11 and further, specifically teaches a beacon (e.g., Beacon B, see page 483, column 2, third-fifth paragraphs) comprises a field having a traffic indicator bit (e.g., Network Allocation Vector NAV value) that is set to denote a transmission of a data frame after the special beacon. The teachings of Koutroubinas provide dynamic bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion"). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency.

Regarding claim 3, Beach teaches the system is configured in accordance with the IEEE 802.11 standard protocol (e.g., see col. 3, lines 9-11).

Regarding claim 5, Beach teaches a method and access point logic in accordance with IEEE 802.11 comprising: broadcasting a special delivery traffic indication message DTIM beacon (e.g., see col. 11, lines 13-22) by an access point (e.g., embedded access point EAP, see col. 11, lines 55-64), the DTIM beacon having at least a traffic indicator bit that is set (e.g., DTIM field within beacon frames are set, see col. 11, lines 19-21) to denote data is to be transmitted after the DTIM beacon (i.e., access point has data queued for future transmission, see col. 11, lines 21-22), and broadcasting the data frame that

includes at least load balancing information (e.g., see col. 1, lines 48-60 regarding hopping pattern, timing information, and associated mobile units; and col. 1, lines 61-64 regarding the information is included in the beacon) by the access point (e.g., embedded access point EAP, see col. 11, lines 55-64), the data frame being broadcast after a definitive time period has elapsed after broadcasting of the special DTIM beacon (e.g., see col. 11, line 55 – col. 12, line 7).

However, Beach may not specifically disclose the bit in the field denotes a specific transmission of a data frame after the beacon.

Koutroubinas also teaches a beacon in accordance with IEEE 802.11 and further, specifically teaches a beacon (e.g., Beacon B, see page 483, column 2, third-fifth paragraphs) comprises a field having a traffic indicator bit (e.g., Network Allocation Vector NAV value) that is set to denote a transmission of a data frame after the special beacon. Further, Koutroubinas teaches that each Beacon packet defines the timing of the transmission of data traffic, and therefore, the teachings of Koutroubinas encompass data frames being broadcast after a definitive time period has elapsed after the broadcasting of the special beacon (e.g. see page 483, column 2, fourth paragraph, lines 5-8). The teachings of Koutroubinas provide dynamic bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion"). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency.

Regarding claim 6, Beach in view of Koutroubinas may not specifically teach the data frame is broadcast immediately after the broadcast of the special beacon. Rather, Koutroubinas teaches a preferred embodiment in Figure 2a wherein Short InterFrame Space SIFS is provided, along with a first Poll packet P, prior to transmission of data traffic ISO1. The preferred teachings of Koutroubinas provide improved synchronization means (e.g., see abstract). However, if bandwidth efficiency is deemed more desirable in a system than such improved synchronization, one of ordinary skill in the art would be motivated to implement the method of Beach in view of Koutroubinas by broadcasting data traffic immediately after the broadcast of the special beacon in order to increase bandwidth efficiency. Thus, for systems wherein bandwidth efficiency is deemed more desirable than improved synchronization, at the time of the invention it would have been obvious to one of ordinary skill in the art to implement the method of Beach in view of Koutroubinas by broadcasting data traffic immediately after the broadcast of the special beacon in order to increase bandwidth efficiency.

Regarding claim 7, Beach teaches the broadcasting of both the special DTIM beacon and the data frame is performed by an access point to the device being a wireless unit of a plurality of wireless units (e.g., see FIG. 2 and cols. 5-6).

Regarding claim 8, Beach teaches the load balancing information is computed from information pertaining to characteristics of wireless units in communication with the access point (e.g., see col. 1, lines 52-56 regarding indication of how many mobile units are already associated with the access point).

Regarding claim 10, Beach teaches providing an access point (e.g., access point AP, mobile unit MU, extended access point EAP, see col. 4, line 63 – col. 5, line 27); and

broadcasting a modified beacon (e.g., DTIM) from the access point (e.g., embedded access point EAP, see col. 11, lines 55-64) to a plurality of wireless units, the modified beacon comprises (i) a plurality of information elements comprising an access point name (e.g., AP_ID, see col. 11, line 3), an access point identifier information (e.g., identifying address, see col. 1, lines 47-48) and a load balancing information (e.g., see col. 1, lines 48-60 regarding hopping pattern, timing information, and associated mobile units; and col. 1, lines 61-64 regarding the information is included in the beacon), and (ii) a first frame check sequence associated with the plurality of information elements (e.g., CRC, see col. 12, line 33 – col. 13, line 4).

Regarding claims 12-14, Beach teaches a beacon comprises a DTIM and a TIM (e.g., see col. 11, lines 13-63), and Koutroubinas teaches more generally a special Beacon (B) which may or may not comprise either of DTIM or TIM. As discussed above, the teachings of Koutroubinas provide dynamic bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion"). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency. Accordingly, the teachings of Beach in view of Koutroubinas encompass a special beacon comprising one or both of a DTIM and TIM.

Regarding claim 20, Beach teaches an access point (e.g., access point AP, mobile unit MU, extended access point EAP, see col. 4, line 63 – col. 5, line 27) in accordance with IEEE 802.11 comprising: logic to broadcast a special delivery traffic indication message DTIM beacon (e.g., see col. 11, lines 13-22) comprising a traffic indicator (e.g.,

DTIM field within beacon frames are set, see col. 11, lines 19-21) to denote transmission of a data frame (i.e., access point has data queued for future transmission, see col. 11, lines 21-22); and logic to broadcast the data frame immediately after broadcasting the special DTIM beacon (e.g., see col. 11, line 55 – col. 12, line 7), the data frame comprises at least one of a load balancing information (e.g., see col. 1, lines 48-60 regarding hopping pattern, timing information, and associated mobile units; and col. 1, lines 61-64 regarding the information is included in the beacon).

However, Beach may not specifically disclose a bit in the traffic indicator field denotes a specific transmission of a data frame after the beacon.

Koutroubinas also teaches a beacon in accordance with IEEE 802.11 and further, specifically teaches a beacon (e.g., Beacon B, see page 483, column 2, third-fifth paragraphs) comprises a field having a traffic indicator bit (e.g., Network Allocation Vector NAV value) that is set to denote a transmission of a data frame after the special beacon. Further, Koutroubinas teaches that each Beacon packet defines the timing of the transmission of data traffic, and therefore, the teachings of Koutroubinas encompass data frames being broadcast after a definitive time period has elapsed after the broadcasting of the special beacon (e.g. see page 483, column 2, fourth paragraph, lines 5-8). However, Koutroubinas may not specifically teach the data frame is broadcast immediately after the broadcast of the special beacon. Rather, Koutroubinas teaches a preferred embodiment in Figure 2a wherein Short InterFrame Space SIFS is provided, along with a first Poll packet P, prior to transmission of data traffic ISO1. The preferred teachings of Koutroubinas provide improved synchronization means (e.g., see abstract). However, if bandwidth efficiency is deemed more desirable in a system than such improved

synchronization, one of ordinary skill in the art would be motivated to implement the method of Beach in view of Koutroubinas by broadcasting data traffic immediately after the broadcast of the special beacon in order to increase bandwidth efficiency. Thus, for systems wherein bandwidth efficiency is deemed more desirable than improved synchronization, at the time of the invention it would have been obvious to one of ordinary skill in the art to implement the method of Beach in view of Koutroubinas by broadcasting data traffic immediately after the broadcast of the special beacon in order to increase bandwidth efficiency. As discussed above, the teachings of Koutroubinas provide dynamic bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion"). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency.

Regarding claim 22, Beach teaches the load balancing information comprises data pertaining to characteristics of wireless units in communication with the access point (e.g., see col. 1, lines 52-56 regarding indication of how many mobile units are already associated with the access point).

Regarding claim 24, Koutroubinas teaches that each Beacon packet defines the timing of the transmission of data traffic, and therefore, the teachings of Koutroubinas encompass data frames being broadcast after a definitive time period has elapsed after the broadcasting of the special beacon (e.g. see page 483, column 2, fourth paragraph, lines 5-8). As discussed above, the teachings of Koutroubinas provide dynamic bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion").

Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency.

Regarding claim 25, Beach teaches the load balancing information comprises a count of a number of wireless units currently associated with the access point (e.g., see col. 1, lines 52-56 regarding indication of how many mobile units are already associated with the access point).

Regarding claims 26 and 28, Beach teaches the wireless unit decides whether or not to associate with a given access unit based on "any information the access unit may have issued indicating how many mobile units are associated with it" (col. 1, lines 52-56). Thus, Beach teaches the load balancing information comprises an indicator as to whether the access point is able to access one or more additional wireless units, since "any information" indicating the number of mobile units that are/can be associated with the access unit encompasses "an indicator" as recited in claim 26. Further, regarding claim 28, Beach similarly teaches an indicator which indicates whether a count of a number of wireless units exchanging data at a rate exceeds a predetermined threshold (i.e., "any information" includes that which indicates the threshold number of mobile units that can be associated with the access unit).

Regarding claim 27, Koutroubinas teaches a value (e.g., Beacon period) corresponding to a speed (e.g., frame rate) of an uplink from the access point to a backbone network at which the access point is coupled (e.g., see page 485, column 2, lines 4-5). As discussed above, the teachings of Koutroubinas provide dynamic

bandwidth allocation for improved system efficiency (e.g., see page 486, section "IV. Conclusion"). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include the information of the IEEE 802.11 configured Beacon (B) of Koutroubinas within the IEEE 802.11 DTIM beacon of Beach in order to provide dynamic bandwidth allocation for improved system efficiency.

Regarding claim 30, Beach teaches the system is configured in accordance with the IEEE 802.11 standard protocol (e.g., see col. 3, lines 9-11).

Regarding claim 31, Beach teaches the device is a wireless unit (e.g., see FIG. 2).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view of U.S. Patent No. 5,548,821 to Coveley.

Regarding claim 17, Beach teaches the method as described above regarding claim 16, however, may not specifically disclose the beacon comprises a test pattern and a second frame check sequence. Coveley teaches an adaptive system for self-tuning in a wireless communications environment whereby a test pattern (e.g., test sequence) is transmitted and a receiver determines which operating frequency to select based upon the accuracy of the received test pattern with a known test pattern (e.g., see col. 1, line 62 – col. 2, line 55). The teachings of Coveley provide improved accuracy of transmission and overcomes prior art disadvantages such as receiving center operating frequency drift, and further, the teachings of Coveley permit transmitters to have slightly different carrier frequencies which more suitably accommodates systems with less precise transmission frequencies (e.g., see col. 2, lines 1-8). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Coveley to the

method of Beach in order to provide improved accuracy of transmission and to accommodate a greater range of transmission frequency variance.

Further, as discussed above regarding claim 16, Beach teaches the beacon comprises a frame check sequence (e.g., CRC, see col. 12, line 33 – col. 13, line 4). While Beach may not specifically disclose *two* frame check sequences, it is generally considered to be within the ordinary skill in the art to duplicate parts for a multiplied effect. St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8, 11 (7th Cir. 1977). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include a second frame check sequence in the beacon of Beach in view of Coveley, since it is generally considered to be within the ordinary skill in the art to duplicate parts for a multiplied effect.

7. Claims 4, 9, 11, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view Koutroubinas, further in view of U.S. Patent No. 5,548,821 to Coveley.

Regarding claims 4, 9, 11, 21 and 23, Beach in view of Koutroubinas teach the method as described above regarding claims 3 and 20, however, may not specifically disclose transmitting a static bit test pattern. Coveley teaches an adaptive system for self-tuning in a wireless communications environment whereby a static bit test pattern (e.g., test sequence) is transmitted and a receiver determines which operating frequency to select based upon the accuracy of the received test pattern with a known test pattern (e.g., see col. 1, line 62 – col. 2, line 55). The teachings of Coveley provide improved accuracy of transmission and overcomes prior art disadvantages such as receiving center operating

frequency drift, and further, the teachings of Coveley permit transmitters to have slightly different carrier frequencies which more suitably accommodates systems with less precise transmission frequencies (e.g., see col. 2, lines 1-8). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Coveley to the method of Beach in view of Koutroubinas in order to provide improved accuracy of transmission and to accommodate a greater range of transmission frequency variance.

Further, regarding claims 11 and 17, Beach teaches the beacon comprises a frame check sequence (e.g., CRC, see col. 12, line 54 – col. 13, line 4). While Beach may not specifically disclose two frame check sequences, it is generally considered to be within the ordinary skill in the art to duplicate parts for a multiplied effect. St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8, 11 (7th Cir. 1977). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include a second frame check sequence in the beacon of Beach in view of Koutroubinas in view of Coveley, since it is generally considered to be within the ordinary skill in the art to duplicate parts for a multiplied effect.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justin M Philpott

ALPUS H. HSU
PRIMARY EXAMINER